



PATENT
Client-Matter No.: 66872-028
(P-AR 5746)

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Application of)
Liang and Woodward)
Serial No.: 10/663,377)
Filed: September 15, 2003)
For: HUMAN COX-1)
ALTERNATIVELY SPLICED)
VARIANTS AND METHODS OF)
USING SAME)

Confirmation No.: Unknown

Group Art Unit: Unknown

Examiner: Unassigned

I hereby certify that this correspondence is being deposited with the United States Postal Service as first class mail in an envelope addressed to: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450 on March 1, 2004.

By: Andrea L. Gashler
Andrea L. Gashler, Reg. No. 41,029

Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

March 1, 2004
Date of Signature

INFORMATION DISCLOSURE STATEMENT

Sir:

In accordance with 37 C.F.R. § 1.97, enclosed are references relating to the above-identified application. For the convenience of the Examiner, these references are listed on the attached Form PTO-1449, and a copy of each is enclosed herewith.

It is respectfully requested that these references be considered in the examination of this application and that their consideration be made of written record in the application file.

No fee is deemed necessary in connection with the filing of this Information Disclosure Statement. However, if any fee is required, authorization is hereby given to charge the amount of any such fee to Deposit Account No. 502624.

Respectfully submitted,

Date: March 1, 2004

Andrea L. Gashler
Andrea L. Gashler
Registration No.: 41,029
Telephone: (858) 535-9001
Facsimile: (858) 535-8949

McDERMOTT, WILL & EMERY
4370 La Jolla Village Drive, Suite 700
San Diego, California 92122

Form PTO 1449 US Department of Commerce Patent and Trademark Office	ATTY CLIENT-MATTER NO: 66872-028 (P-AR 5746)	SERIAL NO. 10/663,377
MAR 04 2004 PATENT & TRADEMARK OFFICE	APPLICANT: Liang and Woodward	
INFORMATION DISCLOSURE STATEMENT BY APPLICANT	FILING DATE: September 15, 2003	GROUP: Not Yet Assigned CONFIRMATION NO.: Unknown

U.S. PATENT DOCUMENTS

EXAM. INITIALS	DOCUMENT NUMBER	DATE	NAME	CLASS	SUB-CLASS	FILING DATE

FOREIGN PATENT DOCUMENTS

EXAM. INITIALS	DOCUMENT NUMBER	DATE	COUNTRY	CLASS	SUB-CLASS	TRANSLATION (YES/NO)

OTHER DOCUMENTS (Including Author, Title, Date, Pertinent Pages)

	Carelli et al., "Optic nerve degeneration and mitochondrial dysfunction: Genetic and acquired optic neuropathies," <u>Neurochem. Int.</u> 40:573-584 (2002).
	Chandrasekharan et al., "COX-3, a cyclooxygenase-1 variant inhibited by acetaminophen and other analgesic/antipyretic drugs: Cloning, structure, and expression," <u>Proc. Natl. Acad. Sci USA</u> 99:13926-13931 (2002).
	"Chemiluminescent Cyclooxygenase Activity Kit: Catalog No. 907-003," Assay Designs, Inc. 1-12.
	"Cox Activity Assay: Catalog No. 760151," Cayman Chemical 1-8.
	"Cox (human) inhibitor screening assay: Catalog No. CM51061," IBL Immuno-Biological Laboratories 1-8.
	Crofford, "COX-1 and COX-2 tissue expression: Implications and predictions," <u>J. Rheumatol.</u> 24:15-19 (1997).
	"Cyclooxygenase Activity Kit: Catalog No. EKS-320" Stressgen Biotechnologies 1-10.
	Dewitt and Smith, "Primary structure of prostaglandin G/H synthase from sheep vesicular gland determined from the complementary DNA sequence," <u>Proc. Natl. Acad. Sci. USA</u> 85:1412-1416 (1988).
	Dewitt et al., "The aspirin and heme-binding sites of ovine and murine prostaglandin endoperoxide synthases," <u>J. Biol. Chem.</u> 265:5192-5198 (1990).
	Diaz et al., "Alternative splicing of human prostaglandin G/H synthase mRNA and evidence of differential regulation of the resulting transcripts by transforming growth factor beta 1, interleukin 1 beta, and tumor necrosis factor alpha," <u>J. Biol. Chem.</u> 267:10816-10822 (1992).
	Droge et al., Alternative Splicing of Cyclooxygenase-1 mRNA in the Human Iris," <u>Ophthalmic. Res.</u> 35:160-163 (2003).
	Dubois et al., "Cyclooxygenase in biology and disease," <u>FASEB Journal</u> 12:1063-1073 (1998).

-Page 1 of 3-

EXAMINER DATE CONSIDERED _____

EXAMINER: Initial if citation considered, whether or not citation is in conformance with MPEP 609; Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

Form PTO 1449 US Department of Commerce Patent and Trademark Office	ATTY CLIENT-MATTER NO: 66872-028 (P-AR 5746)	SERIAL NO. 10/663,377
	APPLICANT: Liang and Woodward	
INFORMATION DISCLOSURE STATEMENT BY APPLICANT	FILING DATE: September 15, 2003	GROUP: Not Yet Assigned CONFIRMATION NO.: Unknown

	Escribano et al., "cDNA from human ocular ciliary epithelium homologous to beta ig-h3 is preferentially expressed as an extracellular protein in the corneal epithelium," <u>J. Cell Physiol.</u> 160:511-521 (1994).
	Feng et al., "Cloning two isoforms of rat cyclooxygenase: Differential regulation of their expression," <u>Arch. Biochem. Biophys.</u> 307:361-368 (1993).
	FitzGerald et al., "COX-2 inhibitors and the cardiovascular system," <u>Clin. Exp. Rheumatol.</u> 19:S31-S36 (2001).
	Funk et al., "Human platelet/erythroleukemia cell prostaglandin G/H synthase: cDNA cloning, expression, and gene chromosomal assignment," <u>FASEB J.</u> 5:2304-2312 (1991).
	Gierse et al., "A single amino acid difference between cyclooxygenase-1 (COX-1) and -2 (COX-2) reverses the selectivity of COX-2 specific inhibitors," <u>J. Biol. Chem.</u> 271:15810-15814 (1996).
	Hennan et al., "Effects of selective cyclooxygenase-2 inhibition on vascular responses and thrombosis in canine coronary arteries," <u>Circulation</u> 104:820-825 (2001).
	Hla, "Molecular characterization of the 5.2 KB isoform of the human cyclooxygenase-1 transcript," <u>Prostaglandins</u> 51:81-85 (1996).
	Jones, "Practical COX-1 and COX-2 pharmacology: What's it all about?" 1-5. www.vetmedpub.com/cp/pdf/symposium/nov_1.pdf
	Kitzler et al., "Analysis and quantitation of splicing variants of the TPA-inducible PGHS-1 mRNA in rat tracheal epithelial cells," <u>Arch. Biochem. Biophys.</u> 316:856-863 (1995).
	Marnett et al., "Arachidonic acid oxygenation by COX-1 and COX-2: Mechanisms of catalysis and inhibition," <u>J. Biol. Chem.</u> 274:22903-22906 (1999).
	Marnett et al., "Mechanism of the stimulation of prostaglandin H synthase and prostacyclin synthase by the antithrombotic and antimetastatic agent, nafazatom," <u>Mol. Pharmacol.</u> 26:328-335 (1984).
	Matsuo and Cynader, "The EP2 receptor is the predominant prostanoid receptor in the human ciliary muscle," <u>Br. J. Ophthalmol.</u> 77:110-114 (1993).
	Merlie et al., "Isolation and characterization of the complementary DNA for sheep seminal vesicle prostaglandin endoperoxide synthase (cyclooxygenase)," <u>J. Biol. Chem.</u> 263:3550-3553 (1988).
	Needleman et al., "Arachidonic acid metabolism," <u>Annu. Rev. Biochem.</u> 55:69-102 (1986).
	Olichon et al., "Loss of OPA1 perturbs the mitochondrial inner membrane structure and integrity, leading to cytochrome c release and apoptosis," <u>J. Biol. Chem.</u> 278:7743-7746 (2003).
	Palmer and Henrich, "Clinical acute renal failure with nonsteroidal anti-inflammatory drugs," <u>Semin. Nephrol.</u> 15:214-227 (1995).
	Rowlinson et al., "The binding of arachidonic acid in the cyclooxygenase active site of mouse prostaglandin endoperoxide synthase-2 (COX-2). A putative L-shaped binding conformation utilizing the top channel region," <u>J. Biol. Chem.</u> 274:23305-23310 (1999).
	Schafer, "Effects of nonsteroidal anti-inflammatory drugs on platelet function and systemic hemostasis," <u>J. Clin. Pharmacol.</u> 35:209-219 (1995).
	Scott et al., "Characterization of the human prostaglandin H synthase 1 gene (PTGS1): Exclusion by genetic linkage analysis as a second modifier gene in familial thrombosis," <u>Blood Coagulation and Fibrinolysis</u> 13:519-531 (2002).

Form PTO 1449 US Department of Commerce Patent and Trademark Office	ATTY CLIENT-MATTER NO: 66872-028 (P-AR 5746)	SERIAL NO. 10/663,377
	APPLICANT: Liang and Woodward	
INFORMATION DISCLOSURE STATEMENT BY APPLICANT	FILING DATE: September 15, 2003	GROUP: Not Yet Assigned CONFIRMATION NO.: Unknown

	Silverstein et al., "Gastrointestinal toxicity with celecoxib vs. nonsteroidal anti-inflammatory drugs for osteoarthritis and rheumatoid arthritis: The Class Study: A randomized controlled trial," <u>JAMA</u> 284:1247-1255 (2000).
	Trevethick et al., "Non-steroid anti-inflammatory drug-induced gastric damage in experimental animals: Underlying pathological mechanisms," <u>Gen. Pharmacol.</u> 26:1455-1459 (1995).
	Van Haeringen et al., "Constitutive cyclooxygenase-1 and induced cyclooxygenase-2 in isolated human iris inhibited by S(+) flurbiprofen," <u>J. Ocul. Pharmacol. Ther.</u> 16:353-361 (2000).
	Vogiagis et al., "Cyclooxygenase-1 and an alternatively spliced mRNA in the rat stomach: Effects of aging and ulcers," <u>Am. J. Physiol. Gastrointest. Liver Physiol.</u> 278:G820-G827 (2000).
	Vogiagis et al., "Rat colorectal tumours treated with a range of non-steroidal anti-inflammatory drugs show altered cyclooxygenase-2 and cyclooxygenase-1 splice variant mRNA expression levels," <u>Carcinogenesis</u> 22:869-874 (2001).
	Wallace, "Nonsteroidal anti-inflammatory drugs and gastroenteropathy: The second hundred years," <u>Gastroenterology</u> 112:1000-1016 (1997).
	Wentzel et al., "Transcription of prostanoid receptor genes and cyclooxygenase enzyme genes in cultivated human iridial melanocytes from eyes of different colours," <u>Pigment Cell Res.</u> 16:43-49 (2003).
	Xie et al., "Expression of a mitogen-responsive gene encoding prostaglandin synthase is regulated by mRNA splicing," <u>Proc. Natl. Acad. Sci. USA</u> 88: 2692-2696 (1991).
	Yokoyama and Tanabe, "Cloning of human gene encoding prostaglandin endoperoxide synthase and primary structure of the enzyme," <u>Biochem. Biophys. Res. Commun.</u> 165:888-894 (1989).
	Zambraski, The effects of nonsteroidal anti-inflammatory drugs on renal function: Experimental studies in animals," <u>Semin. Nephrol.</u> 15:205-213 (1995).
	Genbank Accession No.: AF440204, homo sapiens prostaglandin-endoperoxide synthase 1 (PTGS1) gene, exons 1 through 11 and complete cds.
	Genbank Accession No.: AF535138, canis familiaris cyclooxygenase mRNA, complete cds.
	Genbank Accession No.: NM_000962, homo sapiens prostaglandin-endoperoxide synthase 1 (prostaglandin G/H synthase and cyclooxygenase) (PTGS1), transcript variant 1, mRNA.
	Genbank Accession No.: NM_000963, homo sapiens prostaglandin-endoperoxide synthase 2 (prostaglandin G/H synthase and cyclooxygenase) (PTGS2), mRNA
	Genbank Accession No.: NM_080591, homo sapiens prostaglandin-endoperoxide synthase 1 (prostaglandin G/H synthase and cyclooxygenase) (PTGS1), transcript variant 2, mRNA.
	Genbank Accession No.: NT_017568.11, homo sapiens chromosome 9 genomic contig.